

STATE OF VERMONT
PUBLIC SERVICE BOARD

Docket No. 6738

Petition of Vermont Electric Cooperative, Inc.)
for a certificate of public good authorizing)
replacement of two transformers at its substation)
in Johnson, Vermont)

Order entered: 9/12/2002

I. INTRODUCTION

This case involves a petition filed on June 10, 2002, by Vermont Electric Cooperative, Inc. ("VEC") requesting a certificate of public good ("CPG") under 30 V.S.A. § 248(j) with respect to the replacement of two transformers at its substation in Johnson, Vermont.

VEC served the petition, prefiled testimony, proposed findings, and a proposed order (along with a prospective CPG) on the Public Service Board ("Board"), the Vermont Department of Public Service ("DPS") and the Vermont Agency of Natural Resources ("ANR"), as specified in 30 V.S.A. § 248(a)(4)(C), pursuant to the requirements of 30 V.S.A. § 248(j)(2).

Notice of the filing in this docket was sent on July 24, 2002, to all parties specified in 30 V.S.A. § 248(a)(4)(C) and all other interested persons. The notice stated that any party wishing to submit comments as to whether the petition raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248 must file the comments with the Board on or before August 26, 2002. Notice of the filing, with a request for comments on or before August 26, 2002, was also published in the *Burlington Free Press* on July 29 and August 5, 2002.

The ANR filed comments with the Board on August 22, 2002. In its filing, the ANR does not oppose the proposed project and does not request a hearing. The ANR states that it does not believe that the petition submitted by VEC raises a significant issue with respect to the substantive criteria of 30 V.S.A. § 248(b)(5).

The DPS filed a Determination letter under 30 V.S.A. § 202(f) on August 29, 2002. No other comments were received from any other parties or interested persons.

The Board has reviewed the petition and accompanying documents and agrees that, pursuant to 30 V.S.A. § 248(j), a CPG should be issued without the notice and hearings otherwise required by 30 V.S.A. § 248.

II. FINDINGS

Based upon the petition and accompanying documents, the Board hereby makes the following findings in this matter.

1. VEC is a corporation duly organized under the laws of the State of Vermont and is engaged primarily in distributing and selling electricity in 66 cities, towns and villages in the Counties of Addison, Bennington, Chittenden, Franklin, Lamoille, Orleans, Windham and Windsor, in the State of Vermont. VEC's principal place of business is 182 School Street, Johnson, Vermont. VEC is subject to the Vermont Public Service Board's jurisdiction pursuant to § 203 of Title 30. Pet. at 1.

2. VEC owns and operates a 34.5/12.2/7.2 kV distribution substation on Upper French Road in Johnson, Vermont. The substation serves VEC's members in the towns of Johnson, Hyde Park, Morristown, and Stowe. All power leaves the substation at 7.2 kV and is consumed entirely by members located within the geographic area identified above. Electrical energy is obtained from a Central Vermont Public Service Corporation 34.5 kV transmission line. The Johnson substation has three single-phase transformers to reduce the voltage level from 34.5 kV to 7.2 kV. One of the three transformers is rated at 833 kVA and serves the "A" phase of the substation; the other two transformers are rated at 333 kVA and serve the "B" and "C" phases of the substation.¹ The project will replace the two 333 kVA transformers with two larger transformers rated at 833 kVA. Abendroth pf. at 1-2.

3. The project is required to serve the load growth in the area that has averaged 7.0% annually over the last three years, primarily due to development in the Stowe area. The most

1. However, VEC replaced the "B" Phase transformer on an emergency basis with an 833 kVA transformer, as described in finding 5, below. The current petition seeks permanent approval for this replacement.

recent summer peak load at the substation was 836 kVA and occurred in July 2001. The most recent winter peak was 1,184 kVA and occurred in January 2002. Future load growth is expected to be more consistent with the area's projected population growth, which over the next several years is expected to average 1.05% annually. Id. at 2-3.

4. The 333 kVA transformers were installed 33 years ago. Due to load growth in the area over the last 33 years, these transformers were operating at or above rated capacity for much of the year. VEC was able to defer replacement of these transformers for several years by shifting loads to the 833 kVA transformer. However, this strategy is no longer a viable option due to the physical configuration of the distribution system. Id. at 3.

5. Routine inspection of the Johnson substation identified an increasing trend in transformer operating temperature that is beyond the normal variation in operating temperature due to weather or load. On May 30, 2002, the temperature of the "B" phase transformer was 54 degrees Centigrade; the "C" phase transformer temperature was 36 degrees Centigrade. The ambient temperature at the time of these observations was 70 degrees Fahrenheit. Two days before, the temperature of the "B" phase transformer was 48 degrees Centigrade at approximately the same ambient temperature. Both transformers were carrying about the same load. VEC was concerned that the "B" phase transformer might fail and cause an outage and possible environmental harm. Accordingly, VEC requested a waiver of the requirements of 30 V.S.A. § 248 for an emergency replacement of the "B" phase transformer with an 833 kVA transformer from VEC's inventory. The requested order was issued and entered on June 3, 2002. The transformer was replaced during VEC's scheduled outage on June 4, 2002. Id. at 3-4.

6. For the required capacity of VEC's Johnson Substation, transformer manufacturers presently offer single-phase substation transformers rated at 333 kVA and 833 kVA. Replacement "in-kind" with 333 kVA transformers would not address the capacity problem. Id. at 4.

7. The scope of work for the proposed project consists of the replacement of the "B" phase and "C" phase transformers rated at 333 kVA with two larger transformers rated at 833 kVA. All construction work is limited to the use of a crane to remove the 333 kVA transformers from their foundation and to place the new transformers on the existing foundation. VEC proposes to leave the 833 kVA "B" phase transformer – that was installed on an emergency basis – in place. This

transformer had previously been acquired by VEC for inventory at a cost of \$13,400. The replacement "C" phase transformer will be purchased by VEC through competitive bidding. VEC estimates that the cost of this new transformer will be approximately \$15,000, based on present market conditions. Installation work, crane rental and transportation costs are estimated at \$10,000. VEC personnel will do all work, except for operation of the crane, and an allocation of their salaries has been included in the estimated costs. Id. at 4-5.

Orderly Development of the Region

[30 V.S.A. § 248(b)(1)]

8. The proposed project will not unduly interfere with the orderly development of the region, with due consideration having been given to the recommendations of the municipal and regional planning commissions, the recommendations of municipal legislative bodies, and the land conservation measures contained in the plan of any affected municipality. This finding is supported by findings 9 through 11, below.

9. The project involves the replacement of existing facilities for the purpose of increasing system safety and reliability. It does not materially impact existing or potential land uses in the region. The Johnson Town Plan does not contain any recommendations contrary to the proposal. Abendroth pf. at 6.

10. The proposal will not impact areas of natural or cultural significance. Id. at 6-7.

11. The project will not impact any land conservation measures included in the Johnson Town Plan. Id. at 7.

Need For Present and Future Demand for Service

[30 V.S.A. § 248(b)(2)]

12. The project is required to meet the need for present and future demand for service which could not otherwise be provided in a more cost effective manner through energy conservation programs and measures and energy efficiency and load management measures. Id. at 5-6; findings 2-7, above.

System Stability and Reliability

[30 V.S.A. § 248(b)(3)]

13. The proposed project will not adversely affect system stability and will ensure greater reliability. Abendroth pf. at 6; findings 2-7, above.

Economic Benefit to the State

[30 V.S.A. § 248(b)(4)]

14. The total construction cost for the project is estimated to be approximately \$40,000. Abendroth pf. at 4-5.

15. The project benefits VEC's customers because it will ensure system reliability and stability. Id. at 5-6.

Aesthetics, Historic Sites, Air and

Water Purity, the Natural Environment and Public

Health and Safety

[30 V.S.A. § 248(b)(5)]

16. The project as proposed will not have an undue adverse effect on aesthetics, historic sites, air and water purity, the natural environment and the public health and safety. This finding is supported by findings 17 through 40, below, which are based on the criteria specified in 10 V.S.A. §§1424a(d) and 6086(a)(1) through (8), 8(A) and (9)(K).

Outstanding Resource Waters

[10 V.S.A. § 1424a(d)]

17. The project will not affect any Outstanding Resource Waters of the state as identified by the Water Resources Board. Abendroth pf. at 6.

18. There are no Class I Wetlands involved with this project. Id. at 6-8.

19. There are no streams involved with this project. Id. at 8.

Water and Air Pollution

[10 V.S.A. § 6086(a)(1)]

20. The project as proposed will not result in undue water or air pollution. This finding is supported by findings 21 through 28, below.

Headwaters

[10 V.S.A. § 6086(a)(1)(A)]

21. The project is not located in headwaters areas. It meets any applicable health or environmental conservation regulations regarding reduction of the quality of ground or surface waters because of the minimal amount of construction and clearing involved. *Abendroth* pf. at 7-10.

Waste Disposal

[10 V.S.A. § 6086(a)(1)(B)]

22. The project meets any applicable health and environmental conservation regulations regarding the disposal of wastes, and will not involve the injection of waste materials or any harmful toxic substances into ground water or wells. There was and will be no disposal of any waste material into surface or groundwater. Any construction debris was or will be disposed of at a state approved landfill. *Id.* at 5, 7.

Water Conservation

[10 V.S.A. § 6086(a)(1)(C)]

23. The proposed project will not require the use of water. *Id.* at 7.

Floodways

[10 V.S.A. § 6086(a)(1)(D)]

24. The proposed project is not located in a floodway. *Id.* at 7-8.

Streams

[10 V.S.A. § 6086(a)(1)(E)]

25. No streams will be impacted by the proposed project. *Id.* at 8.

Shorelines

[10 V.S.A. § 6086(a)(1)(F)]

26. The proposed project is not located on a shoreline. *Id.*

Wetlands

[10 V.S.A. § 6086(a)(1)(G)]

27. As stated in finding 8 above, there are no Class I Wetlands associated with this project. *Id.* at 10.

Air Pollution

[10 V.S.A. § 6086(a)(1)]

28. The project will not result in unreasonable air pollution because the project does not involve industrial/manufacturing emissions, excessive dust and smoke during construction, dust or noise from blasting, odors or excessive noise from construction activity, or processing or storage of radioactive materials, and therefore will not cause undue air pollution. Earth disturbance will be minimized, and there is no need to spray water to reduce dust. No burning will take place. Id. at 7.

**Sufficiency of Water And Burden on
Existing Water Supply**

[10 V.S.A. § 6086(a)(2)(3)]

29. The proposed project will not require the use of water and will not place a burden on any existing water supply. Id.

Soil Erosion

[10 V.S.A. § 6086(a)(4)]

30. The project will not result in unreasonable soil erosion or reduce the ability of the land to hold water. The repairs will create minimal soil disturbance; it will be limited to replacement of existing facilities that do not materially affect root systems of the surrounding vegetation. Low growing vegetation will be retained, and no clearing will take place. Id. at 7-8.

Traffic

[10 V.S.A. § 6086(a)(5)]

31. The proposed project will not cause unreasonable congestion or unsafe conditions with respect to transportation systems. Id. at 9.

Educational Services

[10 V.S.A. § 6086(a)(6)]

32. The proposed project will have no impact on the ability of the involved municipality to provide educational services. Id.

Municipal Services

[10 V.S.A. § 6086(a)(7)]

33. The proposed project will have no impact on the ability of any involved municipalities to provide municipal services. Id.

Aesthetics, Historic Sites or Rare**And Irreplaceable Natural Areas**

[10 V.S.A. § 6086(a)(8)]

34. The project as proposed will not have an undue adverse effect on the scenic or natural beauty, aesthetics, historic sites or rare and irreplaceable natural areas. This finding is supported by findings 35 through 38, below.

35. The project will not adversely affect any views, as the substation will look essentially identical to its present configuration after the project is complete. The project involves replacement of transformers at an existing substation and other small repairs. The end result will be the same as what existed previously. Abendroth pf. at 9.

36. There is no clearing necessary to accommodate the project. Id.

37. Based on the above, the facilities will generally fit within the context of the area in which it exists, and it will not adversely affect the Town of Johnson. Id. at 6, 8-10.

38. There are no known historic sites nor rare or irreplaceable areas impacted by this project. Id. at 6, 10.

Discussion

_____Based on the above findings, the Board finds that this project will not have an undue adverse effect on the aesthetics or scenic and natural beauty of the area. In reaching this conclusion, the Board has relied on the Environmental Board's methodology for determination of "undue" adverse effects on aesthetics and scenic and natural beauty as outlined in the so-called Quechee Lakes decision. *Quechee Lakes Corporation*, #3W04 1 1-EB and 3W0439-EB, dated January 13, 1986.

As required by this decision, it is first appropriate to determine if the impact of the project will be adverse. The project would have an adverse impact on the aesthetics of the area if its design is out of context or not in harmony with the area in which it is located. If it is found that

the impact would be adverse, it is then necessary to determine that such an impact would be "undue." Such a finding would be required if the project violates a clear written community standard intended to preserve the aesthetics or scenic beauty of the area, if it would offend the sensibilities of the average person, or if generally available mitigating steps will not be taken to improve the harmony of the project with its surroundings. The Board's assessment of whether a particular project will have an "undue" adverse effect based on these three standards will be significantly informed by the overall societal benefits of the project.²

Given the facts of this case, it would be difficult to find that this project would have an adverse effect on the aesthetics of the area because the project simply replaced existing facilities in a way that will be nearly unnoticeable. The substation will have an appearance that is almost identical to the pre-existing substation.

**Necessary Wildlife Habitat and
Endangered Species**

[10 V.S.A. § 6086(a)(8)(A)]

39. The proposed project will not impact any necessary wildlife habitat or known endangered species sites. *Id.* at 10.

Development Affecting Public Investments

[10 V.S.A. § 6086(a)(9)(K)]

40. The proposed project will not unnecessarily or unreasonably endanger the public or quasi-public investments in any governmental public utility facilities, services, or lands, or materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to such facilities, services, or lands. *Id.* at 9-10.

Consistency with Resource Selection

Least Cost Integrated Resource Plan

[30 V.S.A. Sec. 248(b)(6)]

41. VEC does not have an approved least cost integrated plan. Board "Closing Order," dated June 14, 2000, Docket No. 6217.

2. Consider, for example, reduction in need for power plant or transmission investments, or other social costs.

Compliance With Electric Energy Plan

[30 V.S.A. § 248(b)(7)]

42. The project as proposed is consistent with the Vermont 20-Year Electric Plan. The DPS has determined, in a letter dated August 29, 2002, that the proposed project is consistent with the Vermont 20-Year Electric Plan in accordance with 30 V.S.A. § 202(f). DPS Section 202(f) Determination, dated August 29, 2002.

Outstanding Water Resources

[30 V.S.A. § 248(b)(8)]

43. The proposed project is not located on or near any "Outstanding Water Resource" as designated by the State of Vermont Water Resources Board. *Id.* at 6, 10; findings 17-19, above.

Existing Transmission Facilities

[30 V.S.A. § 248(b)(10)]

44. The proposed project can be served economically by existing transmission facilities without undue adverse effect on Vermont utilities or customers. Abendroth pf. at 6.

III. CONCLUSION

Based upon all of the above evidence, the construction is of limited size and scope; the petition does not raise a significant issue with respect to the substantive criteria of 30 V.S.A. § 248; the public interest is satisfied by the procedures authorized in 30 V.S.A. § 248(j); and the proposed project will promote the general good of the state.

IV. ORDER

IT IS HEREBY ORDERED, ADJUDGED AND DECREED by the Public Service Board of the State of Vermont that the replacement of two transformers at VEC's substation in Johnson, Vermont, in accordance with the evidence and plans submitted in this proceeding, will promote the general good of the State of Vermont in accordance with 30 V.S.A. § 248, and a certificate of public good to that effect shall be issued in this matter.

Dated at Montpelier, Vermont, this 12th day of September, 2002.

_____)	
)	PUBLIC SERVICE
)	
s/David C. Coen)	BOARD
)	
)	OF VERMONT
s/John D. Burke)	

OFFICE OF THE CLERK

FILED: September 12, 2002

ATTEST: s/Susan M. Hudson

Clerk of the Board

NOTICE TO READERS: This decision is subject to revision of technical errors. Readers are requested to notify the Clerk of the Board (by e-mail, telephone, or in writing) of any apparent errors, in order that any necessary corrections may be made. (E-mail address: Clerk@psb.state.vt.us)

Appeal of this decision to the Supreme Court of Vermont must be filed with the Clerk of the Board within thirty days. Appeal will not stay the effect of this Order, absent further Order by this Board or appropriate action by the Supreme Court of Vermont. Motions for reconsideration or stay, if any, must be filed with the Clerk of the Board within ten days of the date of this decision and order.